

Complete Summary

GUIDELINE TITLE

Public health guidance for community-level preparedness and response to severe acute respiratory syndrome (SARS). Version 2. Supplement E: managing international travel-related transmission risk.

BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention (CDC). Public health guidance for community-level preparedness and response to severe acute respiratory syndrome (SARS). Version 2. Supplement E: managing international travel-related transmission risk. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2003 Dec 29. 14 p.

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SCOPE

DISEASE/CONDITION(S)

Severe acute respiratory syndrome (SARS)

GUIDELINE CATEGORY

Management
Prevention

CLINICAL SPECIALTY

Preventive Medicine

INTENDED USERS

Public Health Departments

GUIDELINE OBJECTIVE(S)

To present recommendations for managing international travel-related severe acute respiratory syndrome (SARS) transmission risk

TARGET POPULATION

- Inbound travelers to the United States from areas affected by severe acute respiratory syndrome (SARS)
- Outbound travelers from the United States going to areas affected by SARS
- Potentially exposed passengers and crew members on conveyances with SARS patients

INTERVENTIONS AND PRACTICES CONSIDERED

Inbound Travelers/Conveyance of Patient with Severe Acute Respiratory Syndrome (SARS)

1. Traveler/patient education (e.g., health alert notices)
2. Passive/active monitoring
3. Symptom screening
4. Collection of contact information
5. Surveillance
6. Quarantine protocol
7. Medical evaluation as appropriate
8. Minimize/prohibit non-essential travel

Outbound Travelers

1. Travel alerts/advisories/prohibitions (domestic/international)
2. Minimize/prohibit non-essential travel
3. Medical screening/assessment at all exit points
4. Require health certificate for exit

MAJOR OUTCOMES CONSIDERED

The effectiveness of travel-related control strategies used to modify the risk of severe acute respiratory syndrome-associated coronavirus (SARS-CoV) disease during the 2003 epidemic

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guideline was prepared by the Centers for Disease Control and Prevention's (CDC) Severe Acute Respiratory Syndrome (SARS) Preparedness Committee, which was assembled to prepare for the possibility of future SARS outbreaks. The Committee includes eight working groups, each of which addressed a component of SARS preparedness and response. The working groups derived the guidance document from lessons learned during the 2003 epidemic, other CDC preparedness and response plans, and the advice, suggestions, and comments of state and local health officials and representatives of professional organizations, convened by means of teleconferences and meetings. Meetings were held on August 12-13, 2003 (public health preparedness and response), September 12, 2003 (preparedness in healthcare facilities), and September 18, 2003 (laboratory diagnostics).

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This is an updated version of the draft guidance document issued by the Centers for Disease Control and Prevention (CDC) on November 3, 2003. CDC revised the draft based on comments received from public health partners, healthcare providers, professional organizations, and others.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Priority Activities

- Screen incoming travelers from severe acute respiratory syndrome (SARS)-affected areas for SARS, and provide guidance about monitoring their health and reporting illness.
- Provide guidance to outbound travelers about active SARS-affected areas and measures to reduce the risk of acquiring SARS-associated coronavirus (SARS-CoV) disease during travel.
- If SARS-CoV transmission in the United States presents an increased risk of exporting SARS-CoV to other countries, then screen outbound travelers to prevent such exportation.
- Ensure the appropriate evaluation and management of SARS cases and potentially exposed passengers and crew members on conveyances.

Activities Directed to Inbound Travelers

The nature and scope of activities related to travelers entering or in the United States will differ depending on the extent of SARS-CoV transmission in the United States and in the country or countries from which the passenger has traveled (see Appendix E1 in the original guideline document). When SARS-CoV transmission is absent or limited in the United States, then efforts will focus on promptly identifying cases imported from SARS-affected areas and preventing further spread from such cases. Guidelines have been developed for various groups who might be arriving from areas affected by SARS-CoV (<http://www.cdc.gov/ncidod/sars/hostingarrivals.htm>; http://www.cdc.gov/ncidod/sars/business_guidelines.htm). If active transmission of SARS-CoV is occurring in a U.S. city or area, then it will be important to prevent spread to other areas in the United States, possibly by limiting or restricting non-essential travel into or from the affected area.

Objective: Prevent spread from SARS-CoV-infected travelers entering the United States.

Basic Activities

- Inform incoming travelers about SARS, and provide guidance on monitoring their health and reporting illness to the appropriate authorities. This may be accomplished by use of:
 - Videos or public announcements on the conveyance just before arrival
 - Distribution of health alert notices before or upon arrival (http://www.cdc.gov/ncidod/sars/travel_alert.htm)
 - Posters or public announcements in airports
- Evaluate travelers who report SARS-like symptoms (e.g., fever or respiratory symptoms) during travel, and collect locating information for the other passengers and crew (See "Activities Related to SARS on Conveyances," below).
- Respond to reports of ill passengers on airplanes or other conveyances arriving from areas with SARS-CoV disease.

Enhanced Activities

- If the level of transmission in another country is high, incoming passengers from that country might require enhanced screening and evaluation through:
 - Visual inspection of all travelers as they disembark
 - Screening of travelers for symptoms of SARS-CoV disease and recent high-risk exposures to SARS-CoV (e.g., SARS-CoV patients or high-risk settings) through a self-administered questionnaire
 - Temperature screening
- Quarantine inspectors at CDC quarantine stations and public health workers in locations near other ports of entry may be required to meet all airplanes or other conveyances arriving from areas with SARS to question crew members about any ill passengers and to visually inspect passengers upon disembarkation.
- If the level of SARS-CoV transmission in a U.S. area is sufficiently high to present a substantial risk to travelers, then non-essential travel to this area may be limited, cancelled, or subjected to increased surveillance measures.
- Other activities that may be considered but whose effectiveness is unclear (especially given the resources required for implementation) include:
 - Ten-day quarantine of all passengers arriving from SARS-affected areas
 - Collection of locating information on all arriving passengers

Activities Directed to Outbound Travelers

Activities related to outbound travelers will vary based on the extent of SARS-CoV transmission in the United States and at the destination (see Appendix E1 in the original guideline document). If there is little SARS-CoV transmission in the United States, the goal is to inform travelers about the risk of SARS and appropriate measures to reduce the risk of acquiring SARS-CoV infection during travel (http://www.cdc.gov/ncidod/sars/travel_advice.htm). If there is extensive SARS-CoV transmission in the United States, then preventing the exportation of SARS-CoV will be an added objective.

Objective: Minimize outbound travelers' risk for exposure to SARS-CoV during travel or the risk of spreading SARS-CoV to other localities.

Basic Activities

- Issue travel alerts and advisories.
- Provide educational materials to travelers on measures to reduce the risk of SARS-CoV disease.

Enhanced Activities

- If there are locations with extensive SARS-CoV transmission where control measures do not appear to be effective, further travel restrictions (e.g., cancellation of flights) to those locations may be considered (see "Roles and Responsibilities" in the Implementation field).
- If the level of SARS-CoV transmission in the United States presents an increased risk for exportation, then some or all of the following might be implemented:
 - Pre-departure screening (e.g., temperature screening, visual screening) of outbound travelers
 - Health certifications (i.e., requiring travelers to have a medical examination before departure, with a doctor's statement that they are free of SARS-CoV symptoms and have not had close contact to a SARS-CoV patient in the past 10 days)
 - Stop lists (i.e., maintaining lists of SARS cases and close contacts at ports of departure against which travelers' names can be checked to prevent them from traveling)

Activities Related to SARS on Conveyances

A SARS patient on a conveyance presents a risk of transmission to other passengers and crew and to nonpassengers on arrival and a risk of further spread from passengers who become infected. Many of the activities listed below are performed by CDC staff at the eight current quarantine stations and by public health workers in locations near other ports of entry with assistance by CDC quarantine station staff from that region.

Objective: Protect co-passengers and crew members from SARS-CoV-infected passengers and from transmission associated with passengers exposed to the index case.

Activities

Management of a Potential SARS Patient on a Conveyance

- Separate the potential SARS patient as completely as possible from other passengers and the crew. The ill passenger should wear a surgical mask.
- Ensure that persons caring for the ill passenger follow infection control measures recommended for cases of SARS (see the National Guideline Clearinghouse [NGC] summary [Supplement I: Infection Control in Healthcare, Home and Community Settings](http://www.cdc.gov/ncidod/sars/flight_crew_guidelines.htm) and http://www.cdc.gov/ncidod/sars/flight_crew_guidelines.htm).
- If possible, designate a separate toilet for the exclusive use of the ill passenger.
- Notify the airport or land port authorities at the destination so that health authorities are informed and prepared to meet the conveyance upon arrival, to manage the ill passenger, and to evaluate other passengers.

Management on Arrival

- Separate the ill passenger from exposed, well co-passengers at the soonest moment, both in transit and after arrival.
- Place the ill passenger in an isolation facility (if available), and assess.
- Assess other passengers for illness, types of exposures to the ill passenger, and other potential SARS-CoV exposures. Emergency medical services (EMS) personnel and local emergency department staff can perform these evaluations using appropriate precautions (see the NGC summary [Supplement I: Infection Control in Healthcare, Home and Community Settings](#) and <http://www.cdc.gov/ncidod/sars/tsa-bcbp-guidelines.htm>).
- Transfer the ill passenger to a local healthcare facility for further evaluation, if needed. Protocols and memoranda of agreement with ambulance services and hospitals with appropriate infection control measures in place should be established in advance (see "Preparedness Planning," below.)

Management of Passengers and Crew on the Same Conveyance

- Collect locating information for all passengers and crew. This information should be obtained directly from passengers, if possible. If a potential SARS case on a conveyance is not detected until after arrival, this information can be obtained from passenger manifests, staff lists, and/or customs forms.
- Inform all passengers on board about SARS, and advise them to seek immediate medical attention if fever or respiratory symptoms develop within 10 days of the flight. Pay particular attention to close contacts of the case.
- Consider temporary detention of the plane and arrangements for monitoring and quarantine of all passengers and crew in some circumstances (e.g., if the ill passenger had contact with a laboratory-confirmed SARS case and had significant respiratory symptoms during a prolonged flight). Home quarantine may be used for persons who live in or near the port of arrival; a designated facility should be arranged for the others (see the NGC summary [Supplement D: Community Containment Measures, Including Non-hospital Isolation and Quarantine](#)).

De-escalation of Control Measures

Objective 1: Downgrade or remove travel alerts and advisories as appropriate.

Activities

- CDC will downgrade a travel advisory to a travel alert when there is:
 - Adequate and regularly updated reporting of surveillance data from the area
 - No evidence of ongoing unlinked transmission for 20 days (two incubation periods) after the onset of symptoms for the last confirmed case without an epidemiologic link, as reported by public health authorities
- CDC will remove a travel alert when there is:
 - Adequate surveillance data from the area
 - No evidence of new cases for 30 days (three incubation periods) after the date of onset of symptoms for the last case, as reported by public health authorities

- Limited or no recent instances of exported cases from the area. An exported case is an ill person who meets the definition for a probable or confirmed case of SARS-CoV disease and who acquired SARS-CoV infection in the area in question and then traveled outside the affected area to another region and was diagnosed there (i.e., the person was not identified as a part of contact tracing activities, and travel was not restricted).

Objective 2: Reduce measures used for inbound travelers as appropriate.

Activities

For All Passengers Arriving from Areas with SARS-CoV Transmission:

- Continue general education for passengers from a particular area until the travel alert has been lifted (30 days after the onset of symptoms for the last case in that area). Because travel patterns may make it difficult to determine passengers' points of origin, it may be more practical to continue general education until travel alerts have been lifted for all areas.
- Continue evaluating travelers who report symptoms of SARS during travel until the travel alert for that area has been lifted (30 days after the onset of symptoms for the last case from that area).

For Passengers Arriving from Areas Under a Travel Advisory:

- Continue the use of screening questionnaires until the area of origin is downgraded from a travel advisory to a travel alert.
- Continue meeting conveyances from SARS-affected areas and visually inspecting passengers until the area of origin is downgraded from a travel advisory to a travel alert.

Objective 3: Reduce other measures used for outbound travelers as appropriate.

Activities

- Continue pre-departure fever and symptom screening for passengers departing from areas with ongoing unlinked transmission, but consider discontinuing these activities 20 days after the onset of symptoms for the last unlinked case.
- Continue stop lists until there are no longer any cases under isolation or contacts under quarantine.

Objective 4: Reduce measures for management of passengers with SARS-CoV disease on conveyances as appropriate.

Activities

- Continue meeting any flight with an ill passenger on board who has SARS-like symptoms. If the passenger is seriously ill, evaluate and follow-up according to established protocols.

- Continue to collect locating information as long as the passenger has symptoms compatible with SARS-CoV disease and has traveled from an area with ongoing unlinked transmission (under a travel advisory). For areas that have been downgraded to a travel alert, locating information may not be needed unless the ill passenger meets the epidemiologic criteria for likely exposure to SARS-CoV (see [Supplement B: SARS Surveillance](#) [see the NGC summary], Appendix B1).
- The need for monitoring and quarantine of contacts of a passenger from an area on travel alert should be determined after the ill passenger has been fully evaluated.

Roles and Responsibilities

Refer to the original guideline document for a discussion on the roles and responsibilities related to managing international travel-related SARS transmission risk.

Preparedness Planning

Legal Authority for Restricting Movement

In advance of the possible reappearance of SARS-CoV, public health officials should:

- Work closely with their legal counterparts to ensure that the legal authority for movement restrictions at the local, state, and federal levels is known and understood and to establish boundaries of authority and processes to address multi-jurisdictional issues (see the NGC summary [Supplement A: Command and Control](#)).
- Develop plans for making decisions on movement restrictions, such as: 1) requirements for pre-departure screening, 2) requirements for arrival screening and/or quarantine, 3) travel prohibitions on cases and contacts, 4) restrictions related to use of mass transit systems, and 5) cancellation of non-essential travel.
- Work closely with local, state, and federal law enforcement to develop plans for enforcement of these restrictions.

Engagement of Key Partners

In advance of the possible reappearance of SARS-CoV, public health officials should:

- Begin preparedness planning by identifying key partners representing: 1) law enforcement (local, state, and federal), 2) legal community, 3) emergency medical services (for evaluation of ill arriving passengers and transportation to the hospital), 4) hospital personnel, 5) transportation industry personnel, and 6) other emergency management personnel. The partners should be involved in the planning process.
- Develop plans for the training, mobilization, and deployment of pertinent public health and other staff.
- Conduct training programs and drills.

- Provide respirator fit-testing and training in use of personal protective equipment (PPE) for persons at risk for exposure to possible SARS cases.
- Plan for the diversion of conveyances carrying supplies for maintenance of critical infrastructure around key transportation hubs that may be affected by SARS-CoV.

Protocols for Management of Ill Arriving Passengers

Public health officials and CDC quarantine staff, in collaboration with legal and law enforcement authorities, should develop protocols for the management of ill arriving passengers at ports of entry, including provisions for:

- Meeting flights with a reported ill passenger
- Establishing notification procedures and communications links
- Separating the ill passenger during assessment
- Assessing the ill passenger and referring for evaluation and care
- Transporting the ill passenger to a designated healthcare facility (see the NGC summary [Supplement D: Community Containment Measures, Including Non-hospital Isolation and Quarantine](#))
- Collecting locating information on other passengers and crew
- Collecting the flight manifest, customs declarations, and other information for contact tracing
- Identifying any other ill passengers and separating them from well passengers
- Quarantining contacts if necessary, including transportation to a quarantine facility
- Providing enforcement for uncooperative ill passengers or contacts

See the NGC summary [Supplement A: Command and Control](#).

Memoranda of Agreement (MOA) with Healthcare Facilities, Transport Services, Emergency Medical Systems, and Physicians

- State and local public health officials should work with federal quarantine staff to develop memoranda of agreement (MOAs) with hospitals near ports of entry; these facilities must be equipped to isolate, evaluate, and manage possible SARS patients (see the NGC summary [Supplement C: Preparedness and Response in Healthcare Facilities](#)).
- Agreements should include arrangements with a designated emergency medical service for on-site assessment of ill passengers and transportation to a hospital for evaluation.

See the NGC summary [Supplement A: Command and Control](#).

Designation of Quarantine Facility

State and local public health officials should identify a facility for travelers who are designated as contacts and who require quarantine but cannot be quarantined at home.

Roles and Responsibilities

Roles and responsibilities should be outlined for the various partners and the various levels of jurisdiction (local, state, and federal) for each component of the response.

For additional information and material on prevention of SARS travel-related risks, see <http://www.cdc.gov/ncidod/sars/travel.htm>.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation. The working groups derived the guidance document from lessons learned during the 2003 epidemic, other Centers for Disease Control and Prevention (CDC) preparedness and response plans, and the advice, suggestions, and comments of state and local health officials and representatives of professional organizations.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Prevention of the introduction of severe acute respiratory syndrome-associated coronavirus (SARS-CoV) (and spread from an introduction) into the United States from SARS-affected areas
- Prevention of the exportation of SARS-CoV from the United States
- Reduction in the risk of SARS among outbound travelers to SARS-affected areas
- Prevention of the spread of SARS-CoV to passengers on a conveyance with a SARS patient

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

"Appendix E1: Travel Related Severe Acute Respiratory Syndrome (SARS) Matrices" in the original guideline document provides information to assist in implementing recommended interventions depending on the extent of severe acute respiratory syndrome-associated coronavirus (SARS-CoV) transmission.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention (CDC). Public health guidance for community-level preparedness and response to severe acute respiratory syndrome (SARS). Version 2. Supplement E: managing international travel-related transmission risk. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2003 Dec 29. 14 p.

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 Nov 3 (revised 2003 Dec 29)

GUIDELINE DEVELOPER(S)

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

SOURCE(S) OF FUNDING

United States Government

GUIDELINE COMMITTEE

Centers for Disease Control and Prevention Severe Acute Respiratory Syndrome (SARS) Preparedness Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version issued by the Centers for Disease Control and Prevention (CDC) on November 13, 2003.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Centers for Disease Control and Prevention (CDC) Web site:

- [HTML Format](#)
- [Microsoft Word](#)
- [Portable Document Format \(PDF\)](#)

Print copies: Available from the Centers for Disease Control and Prevention, MMWR, Atlanta, GA 30333. Additional copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; (202) 783-3238.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- In the absence of SARS-CoV transmission worldwide: guidance for surveillance, clinical and laboratory evaluation, and reporting. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Jan 8. 15 p.

Electronic copies: Available from the [CDC Web site](#).

- Clinical guidance on the identification and evaluation of possible SARS-CoV disease among persons presenting with community-acquired illness. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Jan 8. 15 p.

Electronic copies: Available from the [CDC Web site](#).

- Guidance on air medical transport for SARS patients. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Apr 23. 5 p.

Electronic copies: Available from the [CDC Web site](#).

- Guidance about SARS for airline flight crews, cargo and cleaning personnel, and personnel interacting with arriving passengers. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Apr 23. 7 p.

Electronic copies: Available from the [CDC Web site](#).

See also:

- Appendix E1: Travel-Related SARS Response Matrices.

Electronic copies: Available from the [CDC Web site](#) in PDF format and as Microsoft Word downloads.

Print copies: Available from the Centers for Disease Control and Prevention, MMWR, Atlanta, GA 30333. Additional copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; (202) 783-3238.

PATIENT RESOURCES

The following is available:

- Information for SARS Patients and Their Close Contacts. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Feb 6.
- Infection Control Precautions for SARS Patients and Their Close Contacts in Households. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Jan 8.

Electronic copies: Available from the [Centers for Disease Control and Prevention \(CDC\) Web site](#).

Print copies: Available from the Centers for Disease Control and Prevention, MMWR, Atlanta, GA 30333. Additional copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; (202) 783-3238.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

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